

Patent Abstracts of Japan

PUBLICATION NUMBER : 02260399
PUBLICATION DATE : 23-10-90

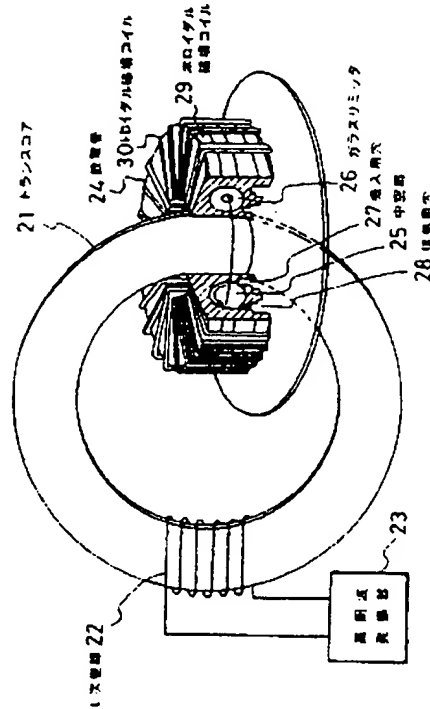
APPLICATION DATE : 31-03-89
APPLICATION NUMBER : 01078383

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INT.CL. : H05H 1/46

TITLE : GENERATING METHOD OF HIGH
PRESSURE PLASMA ARC



ABSTRACT : PURPOSE: To generate high pressure plasma arc electrodelessly by generating plasma by means of applying high frequency voltage in a condition the gas pressure in furnace is sufficiently lowered, and then by retaining the plasma current and gradually increasing the pressure in furnace at the same time.

CONSTITUTION: In a condition the gas pressure in a hollow part 25 is sufficiently lowered so as to electrodeless discharge is easily performed, an induction field is generated from a high frequency oscillator 23 through a transformer core 21, according to the principle of transformer, and high frequency voltage is applied to a discharge tube 24 so as to generate a toroidal plasma. Then, as applying high frequency voltage, by retaining the plasma current and gradually increasing the gas pressure in the hollow part 25 at the same time, high pressure plasma arc is generated. Air current is rotated so as to offset plasma buoyancy generated at high pressure, and the plasma is thus generated near the center of the hollow part 25 stably for a long time.

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